We claim:

1. A process for reducing nitrogen oxides present in a lean exhaust gas from an internal combustion engine by selective catalytic reduction on a reduction catalyst using ammonia, comprising oxidizing some of the nitrogen monoxide present in the exhaust gas to nitrogen dioxide so that the exhaust gas contains 30 to 70 vol.% of nitrogen dioxide before contact with the reduction catalyst, passing the exhaust gas, together with ammonia, over said reduction catalyst, wherein the reduction catalyst comprises a zeolite exchanged with a transition metal .

2. The process according to claim 1, wherein the transition metal is a member selected from the group consisting of vanadium, chromium, iron, nickel, copper, cerium, praseodymium, terbium and mixtures thereof.

3. The process according to claim 2, wherein the reduction catalyst comprises a zeolite exchanged with a member selected from the group consisting of iron, copper, cerium or mixtures thereof.

4. The process according to claim 3, wherein the reduction catalyst comprises at least one zeolite selected from the group consisting of ZSM-5, A, beta, X, Y, ferrierite, Linde type L and faujasite.

5. The process according to claim 4, wherein the reduction catalyst comprises a ZSM-5 zeolite exchanged with at least one of iron and copper.

6. The process according to claim 1, wherein oxidation of the nitrogen monoxide present in the exhaust gas takes place in the presence of an oxidation catalyst.

7. The process according to claim 6 wherein the oxidation catalyst comprises platinum on an active, optionally stabilized, aluminum oxide.

8. The process according to claim 7 wherein the oxidation catalyst is deposited on a honeycomb carrier.

9. The process according to claim 1, wherein oxidation of the nitrogen monoxide present in the exhaust gas takes place with an electrical gas discharge.

10. The process according to claim 1, wherein the ammonia required for selective catalytic reduction is obtained from a compound which can be hydrolyzed to give ammonia.

11. The process according to claim 10, further comprising adding said hydrolyzable compound to the exhaust gas after partial oxidation of the nitrogen monoxide and before contact with the reduction catalyst and then passing the exhaust gas over a hydrolysis catalyst.

12. The process according to claim 10, wherein said compound which can be hydrolyzed to give ammonia is urea or ammonium carbamate.

13. A reduction catalyst for reducing nitrogen oxides in a lean exhaust gas from an internal combustion engine, comprising a zeolite exchanged with iron and as a further component zirconium oxide as binder.

14. The reduction catalyst according to claim 13, wherein said zeolite is a ZSM-5 zeolite exchanged with iron.

15. The reduction catalyst according to claim 13 which is in the form of a coating deposited on a honeycomb structure.

16. A process for producing a reduction catalyst according to claim 13, comprising exchanging a zeolite with iron by solid ion exchange with an iron(II) or iron(III) salt and then suspending said zeolite, together with zirconyl nitrate, in water to form a coating dispersion, depositing said coating dispersion, depositing said coating dispersion on a honeycomb structure and then calcining the coating.